

A B S T R A C T

Systems and Methods for Measuring Magnetostriction in Magnetoresistive Elements

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A system for directly measuring a magnetostriction value of a magnetoresistive element includes a fixture for receiving a substrate carrying one or more magnetoresistive elements. A magnet assembly applies a first magnetic field parallel to the substrate, and a magnetic alternating field perpendicular to the substrate and parallel to magnetoresistive layers of the elements. A stress-inducing mechanism applies a mechanical stress to the substrate, the stress being oriented parallel to the substrate. A measuring subsystem measures a signal from at least one of the magnetoresistive elements.

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